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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/628,168	07/28/2000	Jong-Chul Choi	Q60267	2947

7590 08/28/2002

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[REDACTED] EXAMINER

ALPHONSE, FRITZ

ART UNIT	PAPER NUMBER
2675	

DATE MAILED: 08/28/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

SM

Office Action Summary

Application No.	09/628,168	Applicant(s)	Choi
Examiner	Fritz Alphonse	Art Unit	2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) Responsive to communication(s) filed on Jun 12, 2002
- 2a) This action is FINAL. 2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) Claim(s) 1-8 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) Claim(s) _____ is/are allowed.
- 6) Claim(s) 1-8 is/are rejected.
- 7) Claim(s) _____ is/are objected to.
- 8) Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on _____ is/are a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) The proposed drawing correction filed on _____ is: a) approved b) disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All b) Some* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
a) The translation of the foreign language provisional application has been received.
- 15) Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) Notice of References Cited (PTO-892) 4) Interview Summary (PTO-413) Paper No(s). _____
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) Notice of Informal Patent Application (PTO-152)
- 3) Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____ 6) Other: _____

Art Unit: 2675

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe (U.S. Pat. No. 5,597,223) in view of Nepela (U.S. Pat. No. 3,724,938).

As to claim 1, Watanabe (figs. 6, 12) show a device for enhancing contrast for a liquid crystal display (LCD) projection system, the device comprising: an image driver (107) supplying an image signal; an LCD panel (108) for converting the input image signal into an optical image signal.

Watanabe does not explicitly teach about a contrast control portion positioned on the same optical axis as that of the LCD panel, for controlling an amount of scanned light according to the brightness of a corresponding image.

However, in the same field of endeavor, Nepela (fig. 1) shows a variable contrast image projection wherein a contrast control portion (i.e., analyzer 26) positioned on the same optical axis as that of the LCD panel (i.e., image matrix 16), for controlling an amount of scanned light (col. 6, lines 24-33).

Art Unit: 2675

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to improve upon the display apparatus, as disclosed by Nepela. Doing so would provide a much better color contrast. Thus, uniform brightness is achieved.

As to claim 8, Watanabe does not teach about a contrast control portion disposed on an optical path between the LCD panel and the polarizing plate.

However, this is very obvious. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a contrast control portion disposed on an optical path between the LCD panel and the polarizing plate. By doing so, contrast through a wide range of application could be efficiently and quickly controlled.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Watanabe in view of Nepela as applied to claim 1 above, and further in view of Tokui (U.S. Pat. No. 5,231,456).

As to claim 2, Watanabe does not explicitly disclose an auto brightness limiter (ABL) function for automatically controlling an average brightness of the image signal supplied on said LCD panel.

Art Unit: 2675

However, in the same field of endeavor, Tokui discloses an automatic brightness limiter circuit which automatically adjusts brightness or contrast of a picture of a display apparatus in which a large multi-screen is constituted by a plurality of display units such as projection TVs.

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Watanabe by specifically providing an ABL circuitry, as disclosed by Tokui. Doing so, it becomes possible for Watanabe to adjust the brightness and /or the contrast of the display apparatus so as to provide uniform brightness over the entire projection screen.

As to claim 3, the claim differs from claim 2 only in that the limitation "a contrast control plate for controlling an amount of light scanned from said LCD panel" is added. However, Watanabe (fig. 6A) shows the aperture stop 111 (i.e., contrast control plate) for controlling an amount of light scanned from the LCD panel (108).

As to claims 4-5, Watanabe does not teach about a contrast controller which is inversely proportional to the ABL control signal supplied from said image driver, and wherein the contrast control plate is an LCD.

However, this is very obvious. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use an LCD control plate and a contrast controller which is inversely proportional to the ABL control signal supplied from the image driver. Doing so would have been a desire to provide a display with a much more better brightness.

Art Unit: 2675

As to claim 6, Watanabe (fig. 9) discloses a contrast enhancing device, wherein the contrast control plate controls the degree of the opening and closing cells constituting the LCD according to the contrast control signal applied from said contrast controller (col. 3, lines 19-41).

As to claim 7, Watanabe does not teach about a contrast controller for controlling the contrast control plate to be closed in correspondence to a difference value if the average level of the image signal is lower than the reference level, or controlling said contrast control plate to be opened in correspondence to a difference value. However, these limitations are disclosed by Nepela (col.1, lines 25-66). See the motivation above.

Response to Arguments

5. Applicant's arguments with respect to claims 1-8 have been considered but are moot in view of the new ground(s) of rejection

Conclusion

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fritz Alphonse whose telephone number is (703) 308-8534.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Saras, can be reached at (703) 305-9720.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

Art Unit: 2675

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA., Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.


F. Alphonse

Art Unit: 2675

August 22, 2002


CHANH NGUYEN
PRIMARY EXAMINER